DOCUMENT RESUME

ED 112 068 CE 004 831

AUTHOR Andreyka, Robert E.; Blank, Bill
TITLE Competency-Based Vocational Teacher Education.
PUB DATE 7 Aug 75
NOTE 22p.; Paper presented at the Vocational and Adult Education Summer Workshop (8th, Orlando, Florida, August 3-7, 1975)

EDRS PRICE MF-$0.76 HC-$1.58 Plus Postage
DESCRIPTORS *Instructional Materials; Material Development; *Performance Based Teacher Education; Research Projects; Speeches; State Departments of Education; *State Programs; State Universities; *Teacher Education Curriculum; Vocational Education; *Vocational Education Teachers
IDENTIFIERS Florida

ABSTRACT

The trend toward competency-based vocational teacher education (CBVTE) is related to other significant trends: the movement toward certification by skills demonstration, the emergence of Teacher Centers, and the increasing emphasis on inservice education. CBVTE focuses on teaching competencies, expecting trainees to possess the technical or occupational skills which comprise their subject matter; it identifies teaching competencies, provides learning activities which focus on their mastery, and assesses them in real teaching situations. It is individual-, performance-, and field-based, rather than group-, content-, and classroom-based. Florida's universities and State Department of Education (vo-tech division) are exploring CBVTE; Florida State University's (FSU) research and development project, the advanced testing of 300 CBVTE modules (which were based on exhaustive task analyses and developed in all vocational subjects in a lengthy cooperative venture at Ohio State University) has taken place on and off campus with preservice and inservice teachers. A wide variety of learning activities and feedback devices are used in the modules. Trainees practice competencies in a simulation and then in a classroom. Problems have included gaining commitment from individual faculty members and hesitant trainees. Statewide testing of the Ohio modules is being considered, and FSU plans an exemplary CBVTE program. (Author/AJ)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED112068

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

AUG 28 1975

"COMPETENCY-BASED VOCATIONAL TEACHER EDUCATION"

presented at the

Vocational and Adult Education
Eighth Annual Summer Workshop

August 3-7, 1975
Orlando, Florida

presented by:

Dr. Robert E. Andreyka, Program Leader
Vocational Education
Florida State University

and

Mr. Bill Blank, Instructor
Vocational Education
Florida State University

CE 004831

Good afternoon. It is a pleasure to be here today to share a few thoughts with you about Competency-Based Teacher Education, and more specifically about the area of Competency-Based Vocational Teacher Education. Before I get involved too deeply in describing Competency-Based Teacher Education, I'd like to put the CBTE movement into proper perspective. Of the many trends and innovations in the field of Vocational Teacher Education, several seem to be more significant. First, of course, is the topic at hand today - CBTE. A second trend is the move to not only permit but perhaps require the certification of Vocational Teachers - not by completion of courses, but by demonstration of certain teaching and related competencies. Another very significant trend is the emergence of the Teacher Center; this is especially significant here in Florida with the passage of the Teacher Center Act by the Legislature recently. This move seeks to place the responsibility for training and updating teachers in the hands of groups other than the universities exclusively. Finally, is the increased emphasis on the in-service education of Vocational Teachers. We can't be content any longer to certify our teachers once and for all, but rather offer teachers meaningful experiences throughout their teaching career to help them upgrade and sharpen their skills. Now, it is very significant, I think, that all these last three trends seem to relate directly to the CBTE movement. That is, we can't really have a truly Competency-Based mode of preparing Vocational Teachers unless we allow for certification by demonstrating teaching competence.

I think you'll agree then that the CBTE movement is quite significant, not only in the nation, but in our own state.

No doubt you have seen the term Competency-Based Teacher Education or Performance-Based Teacher Education appear many times in the literature and have heard it mentioned in professional meetings and other places. I'd like to spend a few minutes trying to zero in on exactly what we mean by Competency-Based Teacher Education. I should mention that many use the terms CBTE and PBTE synonymously and interchangeably. We prefer the term Competency-Based because it implies actual performance by the teacher trainee as does the term PBTE, but also implies a minimum acceptable level of competence in that performance.

Generally speaking, there appears to be two broad areas of competence needed by vocational teachers (or any other teacher for that matter). First, is competence in the subject matter being taught. In our case, these are the technical or occupational competencies needed by vocational teachers. Now, the CBTE approach focuses not on these technical competencies, but rather on the teaching and related competencies needed by the successful teacher. These are often referred to as the professional competencies. In a CBTE program we would expect the teacher trainee to come to us already possessing the necessary technical skills (except in the case of Industrial Arts and Home Economics). Our job would be to help him or her develop the required professional competencies they may lack.

While many leaders in the CBTE movement offer many different definitions of what CBTE really is and offer their own lists of essential elements, there seems to be three very basic, broad characteristics of a truly Competency-Based program.

First of all, a Competency-Based program identifies competencies important to teachers. By important, I mean those knowledges, skills or attitudes that promote learning in students. After these competencies have been identified and listed, a CBTE program must provide appropriate learning activities which focus entirely on the mastery of these pre-specific competencies. Finally, assessment of how well these competencies have been attained is carried out in a real teaching situation before real students whenever practical. So, to summarize these important elements, a truly CBTE program first identifies important professional teacher competencies, provides relevant learning experiences designed to facilitate mastery or competencies, and finally, assesses mastery of these in a real teaching situation based on the teacher's performance.

Now you might ask, what's new. As you know, Vocational and Technical Teachers for years have been using the Performance or Competency-Based approach to train occupationally competent graduates. Teachers have identified the skills needed by successful auto mechanics, hair dressers, or medical technologists and have concentrated on teaching these skills.

Use has been made of performance and behavioral objectives, learning modules and criterion referenced measures and other elements associated with Competency-Based education. So, really there's nothing new at all about the concept; the only new twist here is that we are now applying the Competency-Based approach to the occupation of TEACHING!

I'd like to touch briefly on the need for a different approach to preparing vocational teachers. Why the CBTE approach? What's wrong with the way we're training teachers now? There are several very basic shortcomings of the traditional course oriented approach which the CBTE movement seeks to improve upon. There is a definite need for a teacher training program that is built solely upon the actual professional needs of teachers rather than unrelated theory and other aspects that might be nice to know. Also, the need exists for an instructional program that will meet the individual needs of teachers. Teacher trainees enter programs with different backgrounds, much different professional goals and different individual styles and paces of learning. A program is needed that will allow for these individual needs of participants. Many educators recognize the need for learning experiences that relate to the teacher's professional needs. Learning activities are needed that are relevant and focus on the real needs of teachers. And finally, there is a great need for evaluation devices and procedures that focus on the teacher's performance - that is - what the teacher can do rather than on what the teacher knows. The traditional final exam and

other paper and pencil evaluations don't seem to be able to properly assess a candidate's present or potential teaching ability.

Some of the advantages of the CBTE approach are evident when we take a minute to compare the Competency-Based approach with the traditional approach. Here on the left is the conventional course oriented approach, and on the right is the CBTE approach. The conventional method is content-based; this content usually comes from past experience, the instructor, a textbook, or course outline. The Competency-Based approach, by contrast, is competency based. Only validated competencies are included in the program. If it's not important to teaching, it is simply not included in the CBTE program. The conventional program is time based; teacher trainees all enter at certain times and progress through the program according to the clock and calendar. The Competency-Based approach, however, is based on performance rather than time. Participants enter and leave as the need arises and progress through the program based on their performance. Individuals may proceed as rapidly as they choose. The traditional method for preparing teachers focuses on an entire group of teacher trainees. Participants are assembled in large classes and "taught" by the instructor. The group moves on to a new topic only when the group is ready. The CBTE approach allows for individuals to pace themselves through the program based on their past experience, their objectives, and the time they happen to have to devote to the program.

Another major difference is where the learning takes place. The traditional program oftentimes operates under the assumption that the only learning that can take place occurs in the classroom. The CBTE approach views the traditional classroom as only one alternative learning environment. Use is made of field-based experiences for trainees. This allows a hands-on approach that simply can't be simulated in the university classroom. One of the more significant differences in these two teacher education approaches is the use of the teacher educator. The conventional approach utilizes the instructor as a disseminator of information. He stands before the class and personally distributes facts and other information to the teacher trainees. In the CBTE approach, the teacher educator's role shifts to that of a learning manager, guide, and resource person. He makes trainees aware of the objectives of the program and then makes various learning experiences available to them. The instructor also participates in the assessment in a real teaching situation. Other resource persons besides the instructor are involved in this assessment. Principals, master teachers, supervisors and others are used. A final major distinction in the two approaches is in the evaluation of trainees. Many traditional programs still use normative referenced measures where students compete against each other and grades are assigned on the basis of some sort of curve.

The CBTE approach is based on a criterion referenced mode. Expected levels of competence are identified and made public.

We've said that a CBTE is based on pre-specified competencies. I don't think I can emphasize too heavily the importance of valid competencies in a CBTE program. These attitudes, skills, and knowledge needed by the teacher serve as the foundation for the instructional program. Now, where do these come from? They are not pulled from a hat or taken from a textbook or course outline, but rather they are based upon the actual role of the teacher. In other words, we examine what a successful teacher feels, knows, and does, and these become the competency statements upon which the program is based. Once the competencies are identified, they are stated in behavioral, observable terms so that assessment of mastery of each competency can be determined by observation. Finally, these competencies that have been derived from the actual teaching role and stated in behavioral terms are made public in advance. The teacher trainee is made aware of the specific professional competencies he needs to attain. The competencies are also open to public scrutiny so that inappropriate, invalid, or missing competencies may be brought to the attention of proper individuals.

I'd like to give a few examples of the types of competency statements I'm talking about. One professional competency might be "to establish an advisory committee". This is a specific statement of one of the things a teacher will be able to do after completing the program. Another might be "to

present information with the overhead projector". Again, this is a precise statement in observable terms of one of the skills the teacher should possess.

Many people have questions about the assessment aspect of CBTE. How do you propose to actually evaluate competency attainment? First of all, the assessment is carried out in an actual teaching situation whenever possible. Carrying competencies to the simulation stage only may be better than nothing at all, but lacks the realism of an actual classroom with real students who are very similar to the students the teacher trainee will have some day. The actual assessment of the students' competency uses actual performance as the primary indicator of mastery. In other words, we base our judgment on what the student can do in the classroom rather than on what he can recall on a test or exam. Now, it's important to mention that we also consider evidence of the student's knowledge which supports the particular competency. This assessment procedure also strives to be as objective as possible. We try to eliminate as much of the subjectivity from the evaluation as possible and focus specifically on the actual mastery of competencies.

The next logical question you might ask would be, "What about the specific criteria used to evaluate each competency?" In other words, "What specific evidence or indicators are used to determine if each competency has, in fact, been mastered?" Well, these assessment criteria are, first of all, derived from the competencies themselves, the criteria

state, the conditions under which the teacher must perform, and what the expected level of performance is for successful mastery. These assessment criteria are made public in advance along with the competency statements themselves.

I'd like to go over an example of a typical competency and the criteria that might be used for assessment. Let's take a competency we mentioned earlier, "Present Information with the Overhead Projector". Now, the setting for the assessment would be, as we mentioned, in an actual classroom and the assessment would be done by a qualified resource person or persons. This should be someone with teaching experience who has a reasonable mastery of the competency in question. For example, in this case, we would want a resource person who is adept at using the overhead projector. This resource person might be a teacher educator, principal, supervisor, or someone similar. Now, here is an example of some of the specific assessment criteria that might be used to determine if the teacher trainee can effectively use the overhead projector. Did he have a spare bulb available? Was the transparency readable from the last seat in the room? Did the teacher maintain eye contact with students? Of course, there would be many more specific criteria.

Hopefully, these comments have made you a little more aware of what CBTE is all about and why this new approach to education is needed. I would like to share with you now a little about the current involvement in CBTE here in Florida.

The various vocational service areas in the Division of Vocational-Technical Education of the State Department of Education have begun exploring the CBTE concept.

The Agricultural Education Section under the direction of Ron Jeffries has formulated a broad state objective for CBTE involvement. This objective is to prepare quality teachers by exposing them to CBTE teaching situations. The section has identified 20 major professional competencies needed by Agricultural Education teachers in Florida.

The Vocational Business Education Section under Charles Head has established a statewide objective for CBTE in Business Education. This objective is to identify the specific areas in which Business Education teachers need to be competent and to provide teachers with meaningful CBTE experiences. Sixty-one competencies have been identified for Business Education teachers.

The broad CBTE objective for the Distributive Education Section under John E. Frazier is to focus specifically on the unique competencies needed by teachers in Distributive Education programs. The section has begun a thorough review of generic teacher competencies already identified to avoid duplication.

The Home Economics Education Section under Allie E. Ferguson has concentrated their CBTE efforts on first identifying essential student competencies and to support them with important teacher competencies. Activities have been under way for some time to identify these important student competencies.

The Industrial Education Section under Mr. J. R. Sojat and Mr. Tal Rushing has been heavily involved in CBTE. Phase I of a Competency-Based Teacher Certification Project has just been completed. This project identified and validated minimum entry level professional competencies needed by the State's Industrial Education Teachers. These competencies and specific assessment criteria that may be used to assess mastery of the competencies were validated at a workshop held recently in Tampa. The project also reviewed many CBTE curricular materials available throughout the State and nation and identified those materials suitable for Florida's Industrial Education Teachers. Now, I'd like to emphasize that, although Florida State University was the coordinating institution in this Industrial Education Competency-Based Certification Project, it was a total statewide cooperative effort. All the state's universities approved to offer Industrial Teacher Education programs were involved. These are, Florida State University, Florida A & M University, University of North Florida, Florida Technological University, Florida International University, University of South Florida and University of West Florida. In addition, Dade County Schools and Pinellas County Schools were involved. Various personnel were involved in the project including State Department personnel, teacher educators, industrial teachers and supervisors and administrators. So you can see this was very much a state-wide project.

Florida's universities have been involved in the CBTE movement for some time. Florida International University's

Vocational Education Department under Dr. Hank Ziel has CBTE programs at both the Graduate and Undergraduate levels with new CBTE programs planned in Business Education and Health occupations. The University of South Florida under Rex Toothman is now developing general competencies for the areas of Business Education, Industrial and Technical Education and Adult Education at the Graduate level. The University of North Florida under the direction of Dr. Sam Russell has developed a CBVTE program that uses a combination of Competency-Based modules and the traditional classroom approach. Finally, the University of West Florida under Dr. Hobdy Perkins has developed competencies for traditional, time-based Vocational Teacher Education programs.

I'd now like to introduce to you Mr. Bill Blank who is an instructor on our staff at FSU. Bill would like to talk with you a few moments about FSU's involvement in a CBTE research and development project.

Thank you. I'd like to share with you today a little about our involvement at FSU in the advanced testing of Competency-Based Vocational Teacher Education modules developed by the Center for Vocational-Technical Education at the Ohio State University in Columbus, Ohio. The Center is a research and development agency specializing in addressing problems in Vocational Education. This CBTE Research and Development Project was begun in 1967 and is scheduled for completion in about another year. The project has been funded primarily

by the National Institute for Education. Briefly, this project, first of all, identified and validated 384 professional competencies needed by Vocational and Technical teachers in all the traditional vocational service areas. After these competencies were identified and classified, Competency-Based instructional materials called "modules" were developed that would help vocational teachers attain these competencies. These modules are now undergoing advanced testing at these sites: Colorado State, Florida State, and Rutgers, with the Center in Columbus coordinating testing activities. We began the module testing in February and have tested well over 300 modules. Both in-service and pre-service teachers have been involved. We have had teachers involved who range in teaching experience from 0-26 years. We have used the modules both on and off campus in a group instructional setting as well as in directed individual studies on a one-to-one basis. We've had nearly all vocational subject areas represented including Technical and Industrial Education, Home Economics, Technical, Industrial Arts, Business Education and Distributive Education. The Center's project has been carried out in three broad phases: the Research Phase, the Curricula Development and Testing Phase (which we're involved in now), and finally will come the Dissemination and Implementation Phase. I'd like to quickly touch on each of these phases so you can see the scope of this project and get an idea of the tremendous

potential of these modules.

The Research Phase essentially identified, validated, and classified the professional competencies needed by vocational teachers. The first step in the competency identification process was a task analysis of vocational teachers and teacher coordinators. Introspection and interview techniques were used to come up with a preliminary list of competencies. These preliminary competencies were then reviewed and validated by a panel of experts composed of teacher educators, state supervisors, and master teachers representing seven vocational service areas and 19 states. Ninety-seven percent of the competencies were found to be common across all service areas and very little differences were found between secondary and post-secondary levels. Next, a critical incident study involving 700 teachers was conducted. These teachers were asked to identify specific incidents that were critical to successful teaching. A final list of 384 separate professional competencies was identified in this first phase of the project. As I mentioned, all vocational subject areas were represented in the competency identification phase. These were T & I, Technical, Home Economics, Business Education, Agricultural Education, Health occupations and Distributive Education. The following cooperative programs were involved in identifying competencies for teacher coordinators: Off-farm Agriculture, Distributive Education, Wage Earning Home Economics, Office Special Needs, and T & I.

The second broad phase of the project was developing and testing Competency-Based curricular materials designed to help vocational teachers attain the competencies identified as important. First, prototype modules were developed and preliminary testing done. All modules were then revised and made ready for the advanced testing in which FSU is now involved. After this advanced testing, the modules will then be revised again based on the feedback and comments of those involved in the testing. I might mention that the module writing process didn't consist simply of a teacher educator sitting down at his desk and writing a module. This process was a very lengthy cooperative venture involving teacher educators, State Department people, teachers, administrators and supervisors. The modules were written at one of two sites independent of the Center in Ohio. Modules were written at either Oregon State University where Dr. Andreyka was Team Leader, or at the University of Missouri. When a module was completed at one of the sites, it was sent to the other site for review and then to the Center. Although this cooperative development was very time consuming and quite costly, the Center felt that the modules produced would be of higher quality. A total of 118 modules were developed in these ten categories. Notice that all aspects of vocational teaching have been addressed ranging from developing a vocational program to planning, executing and evaluating instruction, plus classroom and shop management, guidance, and relations

with the school and the community. The student vocational organization was included as well as the vocational teacher's professional role. Finally, we see the role of the cooperative teacher coordinator.

The final phase of the project which is getting under way at this time involves disseminating and implementing the modules. Various target groups will be included in this phase. First of course, is the traditional college and university teacher education program both for pre-service and in-service use. Post-secondary institutions will also be included as well as state and local education agencies. There are other groups such as teacher centers that may find these materials useful.

Although I can't show each of you a module here, I can give you an idea of some of the learning activities included in them. Instead of the traditional "reading the textbook and listening to the instructor", a wide variety of learning activities are used in the modules. Among these are information sheets to be read, additional supplementary references, peer discussions, use of self checks, viewing video tapes and other media, observing demonstrations by other teachers, developing plans, offering critiques of taped teaching sessions, case studies, hands-on experience in making or obtaining instructional materials, and various work sheets. Trainees may then practice their competency in a simulated situation and then finally, actually perform the teaching skill in a classroom. Use is also made of a variety of feedback devices other than

the traditional final exam found in the traditional approach. Students compare their answers to questions in the module with module answers. Their case study responses are compared with model responses, planning checklists are used, and peer evaluation is encouraged. The resource person is very much involved in giving feedback to the student, and finally, the trainee's performance in a teaching situation is assessed.

So, to sum up, the modules developed by the Center focus on one or more competency; learning experiences are provided that allow for group or individual instruction; they are flexible, and specific materials for a given vocational service area may be used; each module culminates with evaluation in a real teaching situation; and finally, the design of the modules allows the program to be tailored to the individual needs of teacher trainees.

Now, certainly our involvement at FSU hasn't been all pleasant. We have experienced some difficulties and roadblocks as anyone implementing a new approach might have. We've had some minor difficulties getting certain individual faculty members totally involved in the Competency-Based approach. Another problem has been the significant shift in the role played by the teacher educator. Traditionally, this person has taught before a large class and served as a disseminator of information. In his other new role in a CBTE program, the teacher educator becomes a manager, resource person, and guide. Another problem we have faced

is assessing all participants in a real teaching situation. In-service teachers who are already teaching can easily demonstrate their teaching skill in their own classroom using their own students. However, pre-service teachers sometimes have difficulty finding an on-going class in the immediate vicinity in their occupational specialty. Well-qualified resource persons who will take the time and effort to assist seem to be scarce also. We have also experienced some difficulty with students in this non-traditional approach. Some students are quite secure in the conventional course-oriented approach. Finally, a major problem is how to fit the Competency-Based approach into the traditional university system based on courses completed in quarters.

I'd like to turn the presentation back over to Dr. Andreyka now.

Well, that brings us to the question, "What's the future of CBTE in Florida?" Several things are in the works in the state; some involve the State Department, other projects involve the state's universities, and yet others concern districts and individual institutions. One CBTE project being considered is the statewide testing of the Ohio modules throughout the entire state. It would be very interesting to see just how well CBVTE will work on a statewide basis. Discussions have recently been conducted between the State Department, FSU, and the Center about this statewide involvement.

Another significant development that you will probably be hearing more about in the near future is the establishment of an exemplary CBVTE program at FSU. This program will begin this fall and is designed to prepare vocational teachers in these areas: Industrial, Technical, Vocational, Business and Distributive Education. This aspect of the CBTE program will be primarily Undergraduate. A second goal of this program is to prepare competent vocational education support personnel such as researchers, curriculum specialists, administrative and supervisory personnel and others. This aspect of the program will be at the Graduate level. The significant aspect of this exemplary program planned at FSU is the fact that it will use the Competency-Based approach entirely. Competencies important to professionals in each of the areas just mentioned will be identified and appropriate learning activities developed. Assessment in each area will be carried out in a real teaching or school related setting whenever practical. To fully implement this non-traditional approach, many traditional concepts and ideas will have to be thrown out. Among these are the use of needless and non-relevant entrance requirements for entry into the program. The course-oriented and instructor-centered approach will have to be abandoned in place of a performance and field-based approach. Many other learning activities will need to be included other than traditional classroom instruction. We see the development and implementation of the CBTE program not as an FSU function alone. Our

aim is to develop a truly Competency-Based, relevant, total teacher education effort. This effort must necessarily involve others such as state educational agencies, local agencies, traditional and non-traditional teacher education institutions and many others such as professional groups, students, parents, school administrators and others.

Well, as usual for such a gathering, I guess we've tried to cover too much information too quickly; but I hope we have perhaps created a little interest in the CBVTE movement and made you more aware of the tremendous potential of this approach to preparing competent teachers.